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Sleeping and Dreaming in Aristotle and the Aristotelian Tradition

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Our life is twofold: Sleep hath its own world,
A boundary between the things misnamed
Death and existence: Sleep hath its own world,
And a wide realm of wild reality.

BYRON, *The Dream* (1816)



It is estimated that the average person in this day and age spends about 27 years of their lifetime in sleep. That is, we spend about a third of our life in a horizontal position, rather motionless, withdrawn from the world. While in sleep, however, we often plunge into another world, the world of dreams, in which we experience all sorts of strange things in most unexpected sequences. The things we experience in our dreams often assume unnatural forms and break the laws of space, time, and causality. Yet most of these strange things feel perfectly real when we experience them in our dreams – as real as anything experienced in the waking world. That is why dreams are regarded in many cultures as portals to an alternative reality in which we can converse with the dead, see the future, or receive divine commands. And if one is unable to see the significance of one's own dreams, in many cultures there are interpreters who can provide the missing links and help one to navigate the world of one's waking hours in accordance with one's experiences from the world of dreams.

However, there have always been sceptics. Individuals who doubted that dreams put us in touch with gods, or transport us to another reality, sought a natural explanation of dreams. Aristotle was one of them; not the earliest, but certainly one of the greatest. Freud praised Aristotle for his astutely naturalistic approach to dreams, for his definition of dream as “the mental activity of the sleeper in so far as he is asleep,” as well as for his claim that “the beginnings of an illness might make themselves felt in dreams before anything could

be noticed of it in waking life, owing to the magnifying effect produced upon impressions by dreams.”¹ Freud found an illustrious precursor in Aristotle, who thought that dreams, despite being entirely natural phenomena, can be useful and should be attended to for medical reasons.

There are also philosophical reasons for attending to our dreams. They are an instrument for the study of the nature of reality. Like a prism, which enables us to study the nature of light by separating out its components, dreams enable us to study the nature of reality by separating out the features that differentiate dreams from reality. For instance, dreams are not bound by physical laws, whereas reality is. Things in dreams mostly appear and disappear or morph into one another, whereas reality is populated mostly by stable objects. Things in dreams occur incongruently and inconsistently, whereas in reality objects and facts fit together and support one another. Moreover, dreams are an instrument for the study of the way we normally deal with reality. For example, in dreams we cannot orient ourselves well and assume different perspectives, we are unable to control our emotions or to make considered decisions, and our memory and critical judgement are unavailable for evaluating objects and situations in which we find ourselves. When we are awake, by contrast, we can do most of these things most of the time, and that is what defines our normal, healthy interaction with the world.

Because dreams can teach us so much about reality, then, and because Aristotle’s account of sleeping and dreaming was a milestone for much of the later thinking about these phenomena, they are chosen as a topic for the second volume in the *Forms of Representation in the Aristotelian Tradition* series. This volume explores Aristotle’s work on sleep and dreams and its reception in the Greek, Arabic, and Latin traditions. As contributions to this volume show, this reception started rather late, it was plagued by conflicting tendencies, and it raised many philosophically interesting questions. After introducing the individual chapters, we append a list of the main resources for studying Aristotle’s three treatises on sleep and dreams and their reception.

1 The Context

Aristotle’s investigation of issues related to sleeping and dreaming belongs to his science of living beings, or biology. As is well-known, Aristotle analyses living beings as compounds of form and matter, their soul being the form

1 Sigmund Freud, *The Interpretation of Dreams*, trans. J. Strachey (New York: Basic Books, 2010), 37 and 65.

and their organic bodies the matter. The soul is the principle of formation and organisation of tissues and organs in the body, and it accounts for the abilities that living beings of each given kind have, as manifested by their typical behaviour. One might be tempted to think that Aristotle's work is done once he has collected data and made a voluminous record of the variety of living beings, their bodily parts, and their behaviours in *Historia animalium*, and after he has provided a general account of soul in *De anima* and a general account of organic body in *De partibus animalium*. In fact, though these are indeed his main biological treatises, considerable work still remained to be done.

As Aristotle explains in the first book of *De partibus animalium*, sometimes regarded as an introduction to his biology, there are certain attributes of living beings that require special attention because they are salient attributes either of all or of large groups of them. Sleep and waking are just such attributes, along with respiration, growth in youth and decay in old age, life and death, and a few others.² Such attributes receive their treatment in the collection of short treatises known since the middle ages as the *Parva naturalia*. Each one of these attributes has a common account, one which is equally applicable to all living beings that have this attribute. In other words, what Aristotle says about sleep and waking was meant to hold equally of humans, dogs, eagles, and dolphins. There are some salient attributes, however, that do not allow for a common account because they occur in importantly different ways in different groups of living beings. For instance, all animals are generated, but the ways in which they are generated differ markedly, for instance, some are born alive whereas others hatch from eggs. This is the topic of a separate and quite extensive treatise, *De generatione animalium*. Similarly, many animals move around, but the way they do so is quite different: some walk, others fly, and still others swim, so the different modes of moving around are explored in *De incessu animalium*. The general principles of animal self-motion, briefly touched upon in *De anima* 3.9–11, are set out in more detail in *De motu animalium*. With such accounts of the salient attributes, then, Aristotle's work in the science of living beings is more or less finished – or, at any rate, the milestones are set. As Aristotle puts it in the outline of his grand project of natural philosophy:

After we have dealt with all these subjects, let us then see if we can get some account, on the lines we have laid down, of animals and plants, both in general and in particular; for when we have done this we may

² See *PA* 1.1, 639a19–22, a29–b5, and the opening paragraph of the first treatise in the collection *Parva naturalia*, *Sens.* 1, 436a1–19.

perhaps claim that the whole investigation which we set before ourselves at the outset has been completed.³

Following this framework, and building especially on his general account of the soul in *De anima*, Aristotle wrote the *Parva naturalia*.⁴ This collection of short biological investigations contains three treatises on sleep and dreams. These three treatises form a tightly knit unity and it is likely that they were originally written as a single treatise. Indeed, in the Latin scholastic tradition they were usually treated as a single treatise with two or three chapters. However, the division among the three texts is very clear and it is both helpful and customary to take them as three distinct treatises.

2 Aristotle's Three Treatises on Sleep and Dreams

The three treatises progress in a systematic fashion from the more general to the more specific, each treatise forming a basis for the following one. The first treatise (*De somno et vigilia*) discusses the state of sleep, the second (*De insomniis*) deals with appearances experienced in sleep, that is dreams, whereas the third and shortest treatise (*De divinatione per somnum*) considers the question of whether dreams can be predictive, and if so, in what way. These three treatises are generally regarded as forming a coherent whole, though some interpreters have found discrepancies among them.⁵ The fit between the three treatises and *De anima*, however, is less obvious. *De anima* espouses a hylo-morphic perspective, whereas the treatises in the *Parva naturalia* seem to take a different perspective that has been variously characterised as cardiocentric, physiological, and mechanistic. On the assumption that these two perspectives are mutually incompatible, it was fashionable in the mid-twentieth century to assign the *Parva naturalia* to a different period of Aristotle's intellectual development than *De anima*.⁶ However, that approach ended up in the

3 Aristotle, *Meteorologica*, trans. H. D. P. Lee (Cambridge, MA: Harvard University Press, 1952), 1.1, 339a5–9. See also *MA* 11, 704a3–b3; *Long*. 6, 467b4–5.

4 More information about the collection *Parva naturalia*, its topics, structure, and unity, with an overview of its reception from antiquity to modern times and an extensive bibliography, can be found in Börje Bydén, "Introduction: The Study and Reception of Aristotle's *Parva naturalia*," in *The Parva naturalia in Greek, Arabic and Latin Aristotelianism: Supplementing the Science of the Soul*, ed. B. Bydén and F. Radovic (Cham: Springer, 2018), 1–50.

5 See Philip J. van der Eijk, *Aristoteles: De insomniis, De divinatione per somnum* (Berlin: Akademie Verlag, 1994), 62–67.

6 The fashion was launched by Werner Jaeger's influential study *Aristoteles: Grundlegung einer Geschichte seiner Entwicklung* (Berlin: Weidmann, 1923). The application of this so-called "genetic" or "developmental" approach specifically on Aristotle's psychological and

blind alley of rushing to resolve any apparent contradiction, even within a single treatise, by assigning different paragraphs to different periods. Nowadays, most scholars tend to explain different perspectives and apparent contradictions in Aristotle's opus by supposing that his different tasks required different approaches that need not be incompatible at all.⁷ In other words, most people today take the view that *De anima* and the *Parva naturalia* belong to the same project and use the same philosophical resources.

Aristotle's approaches in *De somno et vigilia* and *De insomniis* share a common scheme. He starts his investigation by asking to which part of the soul the phenomenon at hand belongs. By considering possible options and eliminating some of them, he clears the ground for a definite answer that will then allow him to set out the details and address further problems. Very briefly, *De somno et vigilia* tells us that sleep belongs to the same part of the soul as the waking state, given that sleep is the privation of waking that occurs naturally after a certain period of waking. More specifically, the relevant part is the perceptual part of the soul, and most specifically, it is that aspect of the perceptual part of the soul that coordinates and monitors the special senses, that is, the "common sense," as it is sometimes called.⁸ When the common sense is incapacitated, all the special senses are automatically shut down, and, likewise, when it gets reactivated, all the special senses automatically become responsive to external stimuli. With this specification in place, Aristotle is able to identify the heart as the organ of crucial importance for an explanation of sleep and waking, since the common sense is located there. This in turn enables Aristotle to develop a physiological story as to the conditions and processes that lead from waking to sleep and back.

physiological writings was undertaken by François Nuyens in his monograph *L'évolution de la psychologie d'Aristote* (Louvain: Éditions de l'Institut supérieur de philosophie, 1948). Nuyens' main conclusions were accepted by many scholars, including William D. Ross in his edition of the *Parva naturalia* (Oxford: Clarendon, 1955), 1–18. However, these conclusions were challenged forcefully, also from the developmental perspective, e.g., by Irving Block in his paper "The Order of Aristotle's Psychological Writings," *American Journal of Philology* 82 (1961): 50–77, and by Charles Lefèvre in the book *Sur l'évolution d'Aristote en psychologie* (Louvain: Éditions de l'Institut supérieur de philosophie, 1972). An early voice of dissent against the developmentalist approach, in a classic paper of relevance for the present topic, is Charles Kahn's "Sensation and Consciousness in Aristotle's Psychology," *Archiv für Geschichte der Philosophie* 48 (1966): 43–81.

7 Examples of this approach with respect to Aristotle's hylomorphism and cardiocentrism, are Theodore Tracy, "Heart and Soul in Aristotle," in *Essays in Ancient Greek Philosophy*, ed. J. P. Anton and A. Preus (Albany: SUNY Press, 1983), 2:321–39, and, more recently, Klaus Corcilius and Pavel Gregoric, "Aristotle's Model of Animal Motion," *Phronesis* 58 (2013): 52–97.

8 For the use of the expression "common sense" in Aristotle, and for the functions he assigned to it, see Pavel Gregoric, *Aristotle on the Common Sense* (Oxford: Clarendon Press, 2007).

Aristotle's procedure in *De insomniis* is very similar. He starts with the premise that dreams can be the work either of the perceptual or of the thinking part of the soul, since these are the only two parts of the soul by which we cognise. After considering difficulties for each one of these options, he argues that, although there is no perception proper in sleep, there is something similar to perception; namely, when asleep, one is often aware of images or appearances (*phantásmata*). Now, according to Aristotle, all appearances are generated by earlier perceptions, which means that they belong to the perceptual part of the soul. Consequently, dreams can be ascribed to the perceptual part of the soul, or more specifically to that aspect of it which accounts for appearances (*tò aisthētikòn hēi phantastikón*). Given that this aspect of the perceptual part of the soul is also affiliated with the heart more intimately than with any other part of the body, Aristotle is able to provide a physiological story as to how dreams come about, why they are often strange, why some people dream more and some less, and why some individuals remember their dreams and others do not.

Understandably, Aristotle's procedure in *De divinatione per somnum* is different, given that it addresses the very specific question of the predictive power of dreams. First, Aristotle excludes the possibility that dreams are sent by gods, which is fully in line with his account of dreams in *De insomniis*, but contrary to popular opinion.⁹ Second, he proposes a typology of dreams that turn out to be true. Namely, a dream can turn out to be true insofar as it is the *cause* of, a *sign* of, or a *coincidental match* with the event that makes it true. Aristotle thinks that there is nothing mysterious or supernatural about dreams being causes of events, as this occurs when we are reminded by our dream to perform a particular action, or about dreams being signs of events, as this occurs when our dream is shaped by a physiological process that will develop into an illness. These two types allow prediction, but they are restricted to a very narrow range of events – to one's own actions and to the states of one's own body. The third type does not allow any prediction, since there is no way of knowing whether a dream will coincide with a future event that is causally unrelated to

9 And contrary to the opinion that Sextus Empiricus ascribes to Aristotle (*M* 9.20–23 = *De philosophia*, fr. 12a in *Aristotelis Fragmenta selecta*, ed. W. D. Ross (Oxford: Clarendon Press, 1955)), according to which one source of our notion of gods is what happens with the soul in sleep, “when the soul is itself, assuming its proper nature, it foresees and foretells the future.” This is a fragment from a lost dialogue of Aristotle's. We do not have a wider context of the fragment and hence we should refrain from drawing developmentalist conclusions from it. For other reports on prophetic dreams in Aristotle's lost works, as well as for a difficult passage touching on that topic from Aristotle's *Eudemian Ethics* (8.2, 1248a29–b7), see the second appendix in Luciana Repici's book *Aristotele: Il sonno e i sogni* (Venezia: Marsilio, 2003), 180–96.

the dreamer. However, Aristotle seems to make a concession to popular opinion when he admits that there is something uncanny (*daimónion*) about such dreams. Certain types of people, Aristotle argues, namely those who dream a lot and in rapid succession, have more chances of having such dreams.¹⁰

So much for Aristotle's general approach in these three treatises and his main theses. Let us now look at some details, starting with the phenomenon of sleep. Aristotle's account of sleep in *De somno et vigilia* makes good use of his scheme of the four causes – formal, final, material, and efficient.

Formally, sleep is an incapacitation or immobilisation of perception. However, contrary to what this initial statement might suggest, sleep is not a total incapacitation of absolutely all forms of perception. After all, we do occasionally perceive things while asleep, if only indistinctly; more to the point, in sleep we are often absorbed in a sort of perception (or in a perceptual sort of awareness, *aísthēsis*), namely in the perception of appearances that derive from earlier sense perceptions and hence are very much like objects of perception. Furthermore, sleeping is a particular sort of incapacitation of perception that is distinct from the incapacitation of perception that constitutes fainting. In particular, sleep occurs for a purpose and in a particular way, which brings us to the final cause.

Aristotle says that sleep serves the purpose of preserving the animal, for it allows the animal to recuperate after being active for an extended period of time. Given that the characteristically animal activities, notably perception and locomotion, require animals to be awake, going to sleep is a way of ensuring a necessary rest from such activities. That is to say, by periodic disengagement of the capacities for perception and locomotion (and presumably also of the capacity for thinking, in the case of human beings), sleep ensures the proper functioning of these capacities in the waking state, thus contributing to the animal's preservation and well-being. This is one important way in which sleep is differentiated from other forms of incapacitation of perception, such as fainting, from which no good results.

According to Aristotle, sleep occurs as a consequence of the digestive process regulated by the nutritive part of the soul. Ingested food is cooked in the stomach, causing exhalations to rise inside the body. These exhalations carry chunks of semi-concocted food towards the brain, where they get cooled and condensed. As they get cooled and condensed, they start to fall back down towards the heart, driving the blood and vital heat from the upper parts of the body down to the region around the heart. Without blood and vital heat in the upper parts, the sense-organs cease to function properly, the head

¹⁰ For other typologies of dreams in ancient philosophy and medicine, see Antonius H. M. Kessels, "Ancient Systems of Dream-Classification," *Mnemosyne* 22 (1969): 389–424.

becomes heavy, and one has to lie down and take a nap. While one is asleep, the heat concentrated around the heart contributes to the final stage of the transformation of food into blood. Once this process is complete and new blood is produced, the thick and turbid portions of blood move to the lower parts, whereas the pure and thin portions of blood go to the upper parts. And when blood of the right quality arrives at the right places, the animal wakes up, fresh and ready to engage in its activities. So, the efficient cause of sleep is the digestive process, or more specifically the withdrawal and concentration of blood and heat around the heart.

The material cause is the food and the digestive system of an animal, or more specifically the concocted food and blood in the heart. Needless to say, the efficient and the material cause of sleep differentiate it still further from other forms of incapacitation of perception, such as fainting, which has a different causal origin. It is important to observe how the material-efficient causation, in Aristotle's view, contributes to the formal-final causation of sleep. The body of an animal requires maintenance through the process of digestion, and the crucial part of this process, the transformation of food into blood, requires periodic withdrawal of the blood and heat from the periphery. This causes incapacitation of the senses, but, as we have seen, this is all for the best, since sleep allows the animal a necessary rest from its activities. So, in a way, the digestive process, whose primary purpose is the maintenance of the body, is co-opted for another purpose, namely periodic rest which allows the animal some time to recuperate before resuming its waking activities.¹¹

Although Aristotle's physiology of sleep is obsolete, he was right in regarding sleep as a major biological phenomenon. He clearly saw that it was a universal and very basic physiological need, connected with internal processes of maintaining the animal body. As for the final and formal part of his explanation of sleep, it seems quite compatible with contemporary science of sleep.

Let us now turn to dreams. Unlike sleep, dreams do not have a final cause. That is to say, there is no purpose to dreaming, according to Aristotle. Dreams are a mere by-product of the digestive process, entirely dependent on the physiological setup of the individual animal and the contingencies of the digestive processes. Formally, a dream is "an appearance that arises from the motion of the sense-impressions when one is asleep, and in virtue of being asleep" (*Insomn.* 3, 462a29–31). To appreciate this definition, we need to make some preliminary observations.

11 Perhaps the distinction between primary and secondary teleology, introduced by Mariska Leunissen, can be useful here; see her book *Explanation and Teleology in Aristotle's Science of Nature* (Cambridge: Cambridge University Press, 2010), esp. 81–99.

First of all, we should bear in mind that our concept of a dream does not fully correspond to what the ancient Greeks called *enýpnion* (Latin *insomnium*).¹² We tend to think of a dream as a series of events with a loose narrative structure, whereas an *enýpnion* is typically an individual thing “seen” or otherwise experienced in a dream, such as a person, object or scene. This explains why a dream (*enýpnion*) is defined as an appearance (*phántasma*). Second, it is an appearance “arising from the motion of the sense-impressions,” much as any other appearance. This means that appearances are causally derived from the affections that the external objects produce on our sense-organs. When we see an apple, the apple affects our eyes on account of its visible properties – its red colour of a round shape and a certain size. The perception of an apple sets up a motion in the eyes that extends to the heart as the central sense-organ. This motion can remain in the system for some time, and when it “resurfaces,” we have an appearance of the apple. Of course, this appearance is typically weaker than the original perception, it can be embedded in a series of other motions, and it can undergo various transformations under the agency of the on-going processes inside the body. And although *phantásmata* are predominantly described by Aristotle in terms taken from visual perception, it is important to bear in mind that he allows for auditive, olfactory, gustatory, and tactile appearances, and indeed for combinations of these. In short, appearances can be complex, rich in content, and dynamic, such as an appearance of Coriscus shouting as he approaches us.¹³

We become aware of an appearance when the motion begun by earlier sense-perceptions in the peripheral sense-organs arrives in the heart. Aristotle compares these motions to eddies in rivers, each with its own pattern of movement but possibly altered by whatever conditions might interfere with the movement of the eddy. Throw a branch into a river and the eddies alter their movements accordingly. There are all sorts of processes in the body, mostly involving heat, that interfere with the motions from earlier sense-perceptions in ways that determine the quality of the subsequent dreams. Too much commotion due to digestion, growth (as with children), or intoxication tends to destroy the motions altogether, which explains dreamless periods of sleep. If the commotion is not excessive, but still significant, motions will be distorted in various ways, which explains strange or incoherent dreams. If or when the commotion subsides, motions arrive in the heart in a more or less intact

12 As explained by David Gallop in his introduction to *Aristotle: On Sleep and Dreams* (Petersborough: Broadview Press, 1990), 3–7.

13 See *Insomn.* 1, 458b10–11 (a pale or beautiful person or horse approaching), 1, 458b14–16 (a pale person approaching), 3, 461b29–462a8 (Coriscus); cf. Krisanna Scheiter, “Images, Appearances, and *Phantasia* in Aristotle,” *Phronesis* 57 (2012): 261–62.

shape and more or less in the same order as the sense-perceptions that generated them, which means that such dreams will tend to replay the events from before, or at any rate some of them and to a certain extent. Aristotle calls these “straightforward” or “direct” dreams (*euthyoneiría*).¹⁴

Obviously, dreams are only those appearances that occur in sleep and – as Aristotle’s definition puts it – “in virtue of being asleep.” For an appearance to qualify as a dream, it needs to occur in the right circumstances (the state of sleep) and in the right causal way (through the physiological process that controls sleep). This means that no appearance in the waking state could ever be called a dream; we can be sure that Aristotle would say that “daydreaming” is a misnomer. More to the point, faint perceptions in sleep and appearances caused by them that somehow penetrate to the sleeper are not dreams either.

Now, one important characteristic of dreams, be they straightforward or monstrous, is that we are deceived by them. Sleep induces a sort of hallucinatory state in which the dreamer tends to take the appearances to be real things. If it escapes our notice that we are asleep, we will believe whatever appears in the dream to be real. But often “something in the soul” contradicts the appearance and we are aware that we are dreaming (*Insomn.* 3, 462a5–8). It is not easy to say what this “something” is, but perhaps Aristotle has in mind reason or memory, which may become active in sleep and warn us that what we are experiencing is not real. At any rate, he points out earlier in the argument that when the discerning part is held in check by something or moves in improper ways, it can escape our notice that what appears is just an appearance and not real.

The shortest of the three treatises, *De divinatione per somnum*, explores the possibility of foretelling the future (*mantiké*, *divinatio*) from dreams. It is difficult to persuade oneself that veridical dreams exist, Aristotle argues, because we can offer no causal explanation of how this could come about; but it is also hard to dismiss what all or most people believe, and most people do believe that dreams have some significance. Such an opinion seems to have some rational support, given that doctors attribute significance to dreams and recommend that they be heeded. Adding a god to the picture, however, and arguing that dreams are godsent, is unacceptable to Aristotle. Apart from the

14 Aristotle’s account of the formation of dreams is unclear on a number of points. Medieval Latin philosophers spent considerable effort in reconstructing the full picture while relying heavily on the Arabic tradition (Avicenna, Averroes). For an analysis of this development which, among other things, included important discussions on the interrelation of the internal senses, see Thomsen Thörnqvist’s chapter in this volume, pp. 150–77.

problem that it is unclear how a god (Aristotelian or traditional) could intervene as required, Aristotle finds it incredible that any god should send dreams to random uneducated people in sleep, rather than to the morally and intellectually most worthy recipients, and that this should happen in sleep rather than in the waking state where due attention could be given to the divine messages.

Dispensing, then, with divine intervention, how can we account for the significance of some dreams? We do so by understanding that dreams are either causes of things that come to pass, signs of things that come to pass, or flukes that merely coincide with things that come to pass. This is the threefold typology of significant dreams that we have mentioned earlier, so let us dwell on it a little longer.

How can dreams be causes of things that come to pass? Consider an example. When we practice for a race, we spend a lot of time running and thinking about the race. It is very likely that we will then also dream about running and racing, given that our waking perceptions and thoughts pave the way for the appearances that might emerge in sleep. But the direction of causality might be reversed. It is possible that our dream also paves the way for our actions. For example, the day before the race, I dream of sipping from the bottle of ice-cold water in the middle of the race. When I wake up, remembering this dream quite vividly, I walk to the fridge, fill the bottle of water, and place it in the bag with my gear. And at the actual race, I take a refreshing sip of water from the bottle. In such a case, then, my dream is the cause of what comes to pass. Observe that the class of dreams that are causes of things that come to pass is limited to one's own actions. And there is absolutely nothing strange, mysterious, or supernatural about it.

Some dreams can be signs of bodily processes that are too weak to be noticed during the waking state. In sleep, however, the impact of such internal processes is much more powerful, presumably because the special senses have been shut down and so external stimuli are reduced considerably, leaving more room, as it were, for the faint internal movements of the body to be perceived. The idea seems to be that a dream can be caused or shaped by an incipient pathological process that will fully develop later on. For instance, a drop of phlegm running down one's throat can bring about a dream of swimming in a barrel of bitter-sweet honey. A skilled doctor could perhaps interpret this dream as indicating an onset of fever that will fully develop only later. This is an important sense in which a dream might be significant, particularly for a doctor. But again, this class of dreams is limited to the bodily states of the dreamer, and there is nothing supernatural about it. The predictive power of this class of dreams, however, is very tenuous. Not only do such dreams require

skilled interpreters, but they need not come true in the end, as Aristotle points out, since other processes in the body may intervene and take things in another direction. One might take a lot of vitamin C with one's breakfast, for example, which might dissolve the phlegm and thus subvert the development of fever.

Finally, the greatest part of significant dreams are sheer flukes, and there is no way of identifying such a dream before the actual event that makes it true. In other words, this type of dream does not offer any possibility of prediction whatsoever. However, there is, as Aristotle goes on to explain in chapter two of *De divinatione* (463b14–15), something uncanny or marvellous (*daimónion*) about such dreams. A “deflationary” way of understanding this is with reference to our typical reaction to such dreams. For instance, if I dream that someone I have long lost contact with is travelling to Zanzibar, and next week that person really boards the flight to Zanzibar, surely I will be astonished upon learning that fact. Indeed, I will be tempted to think that the probabilities for such a coincidence are so low that this can only be an act of some supernatural agency. But it is not, according to Aristotle; it is just a coincidence.

It is to be expected that, if such dreams are coincidental, they will occur more frequently in people who dream a lot. Indeed, Aristotle correlates the occurrence of such dreams with people of melancholic constitution,¹⁵ who are continuously moved in all sorts of ways and so suffer a higher frequency of visions than other people. Some of the visions produced by the various and constant movements will happen to be true by sheer law of probability, and since melancholics suffer more movements, they are also more frequently hit by true visions.

Next, Aristotle engages in a somewhat puzzling account of veridical dreams concerning events that are remote in space and time. Such dreams clearly cannot be explained as causes or signs, and if they are not regarded as flukes, it seems that the best account available would be that of Democritus. He argued that effluences from remote objects travel through the air, and in the calm of night when stronger motions subside, such effluences can penetrate the minds of sleepers. But Aristotle suggests a better account, one in terms of propagation of motions that cause appearances by some sort of chain-reaction, which is more in line with his continuist physics. The point of this alternative is not entirely obvious, but perhaps Aristotle only wanted to show that, even if one refused to regard such dreams as flukes, one would not thereby be committed to atomism, since Aristotle also has resources to explain them. So, this passage

15 Such people would actually be classified as choleric, according to the later ancient taxonomy that has survived to date in popular psychology. That taxonomy derives from a medical theory in which different effects were attributed to the “black bile” (*mélaina cholé*) than in Aristotle's theory.

does not give us sufficient reason to think that Aristotle vacillated as to whether veridical dreams concerning spatially or temporally remote events are anything other than flukes, or that his theory of dreams requires a major revision.

Turning to the theme of interpretation of dreams, Aristotle wraps up his short treatise on foretelling the future from dreams. He states that anyone can interpret direct or straightforward dreams (*euthyoneiria*), that is, dreams which reiterate waking experiences. However, dreams are often garbled by movements inside one's body, so a skilled interpreter is needed, one who can spot likenesses between dream-images and things experienced in the waking state. In a word, then, Aristotle allows some room for interpretation of dreams and prediction from them, but this room is quite narrow and it excludes any supernatural factors.

3 Particular Problems

3.1 *Teleology of Sleep and the Integrity of De somno et vigilia*

Some scholars have questioned the integrity of *De somno et vigilia*, claiming that the passage in which the fourfold causal scheme is laid out (2, 455b13–34) and the conclusion (3, 458a25–32) are interpolations from Aristotle's earlier drafts. The ground for this claim is the assumption that Aristotle's requirements on final causation do not permit a teleological explanation of sleep. The idea, to put it briefly, is that sleep is the privation of the waking state, and as such it cannot have a final cause. The waking state is a positive state, which can have a final cause, and this coincides with the formal cause – it is the activity of the soul, what life of a sentient being amounts to. Sleep, by contrast, cannot have a final cause, the argument goes, let alone one in which the final cause will coincide with the formal cause, as is usual in Aristotle's theory.¹⁶ Having realised this difficulty, the argument proceeds, Aristotle abandoned the project of giving a teleological explanation of sleep at the time of writing *De somno et vigilia*, where he focuses solely on material and efficient causes of sleep. What about those passages from *De somno et vigilia* that explicitly mention the final cause of sleep? Well, they are later interpolations from the earlier draft of Aristotle's treatise on sleep and waking, according to these authors.

The argument is indebted to Nuyens and Drossaart Lulofs and it is illustrative of the developmentalist approach to Aristotle's texts, which was popular

16 See Drossaart Lulofs' introduction to his edition of Aristotle's *De insomniis et De divinatione per somnum: A New Edition of the Greek Text with the Latin Translation* (Leiden: Brill, 1947), esp. xvi–xviii, and Malcolm Lowe, "Aristotle's *De somno* and His Theory of Causes," *Phronesis* 23 (1978): 279–91.

in the mid-twentieth century. Stephen Everson has shown very persuasively that the argument rests on a misunderstanding of Aristotle's explanatory method in natural philosophy, and nowadays hardly anyone would question the integrity of *De somno et vigilia* as a unified and well-organised treatise.¹⁷

3.2 *Women and Mirrors (Insomn. 2, 459b23–460a23)*

One of the more curious problems in *De insomniis* is the discussion of what happens when menstruating women look into mirrors. The main problem with this, apart from its general absurdity, is that it seems to commit Aristotle to a sort of extramissionist theory of vision, which he attacks in *De sensu* and which is incongruent with his theory of perception in *De anima*.¹⁸ It should be noted that many interpreters today believe that this part of the text is inauthentic.¹⁹ The text, nevertheless, exercised a strong influence on the medieval reception, particularly with respect to the theory of fascination (also known as “the evil eye”). For this reason, we must look briefly into it.

The mirror case is taken up as corroboration for the claim that the sense organs respond easily, or quickly, to even very slight qualitative changes. Aristotle tells us that when women during their menstrual phase look at themselves in a mirror, the surface of the mirror is coloured and takes on a red hue of a cloudy character. If the mirror is new and its surface cleaner than old and used mirrors, the stain is more difficult to remove (2, 459b27–32). The explanation is that seeing is not just being affected by an exterior object, but also acting upon it.

Different attempts to save Aristotle have been made, none of which is quite convincing. One attempt takes the mirror case as an illustration of sense perception in which the mirror corresponds to the sense-organ (taking on the

17 Stephen Everson, “The *De somno* and Aristotle's Explanation of Sleep,” *Classical Quarterly*, n.s., 57 (2007): 502–50.

18 However, Aristotle seems to operate with an extramissionist theory of vision when discussing optical phenomena in his work *Meteorologica*. One such passage is discussed by David Bennett and Filip Radovic in “Autoscopy in *Meteorologica* 3.4: Following Some Strands in the Greek, Arabic and Latin Commentary Traditions” in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Leiden: Brill, 2022), 213–48. See also Pavel Gregoric and Jakob Leth Fink, “Introduction: Sense Perception in Aristotle and the Aristotelian Tradition”, in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Leiden: Brill, 2022), 30–34.

19 Van der Eijk, *Aristoteles: De insomniis*, 183–93, and Gallop, *On Sleep and Dreams*, 145; see also Anthony Preus, “On Dreams 2, 459b24–460a33, and Aristotle's *opsis*,” *Phronesis* 13 (1968): 175–82; Rosamond Kent Sprague, “Aristotle on Red Mirrors (*On Dreams* II 459b24–460a23),” *Phronesis* 30 (1985): 323–25, and Raphael Woolf, “The Coloration of Aristotelian Eye-Jelly: A Note on *On Dreams* 459b–460a,” *Journal of the History of Philosophy* 37 (1999): 385–91.

form of the sensory object) and the eye (counterintuitively) corresponds to the sensory object whose form is taken up by the sensory organ. If that is how we should understand the mirror passage, it seems to have been very poorly chosen for its purpose and it still leaves us quite in the dark as to how this illustration shows that vision is not just a matter of being affected, but also a matter of acting or being active in some way. If the mirror passage is indeed authentic, it would seem that even Aristotle occasionally nods off.²⁰

3.3 *Dreams and Ancient Medicine (Div.Somn. 1, 463a4–7)*

Having set out his three-fold typology of dreams as causes, signs, and coincidental matches of events that fulfil the dreams, Aristotle writes:

Is it true, then, that some dreams are causes, while others are signs, e.g. of what is happening with the body? In any event, even distinguished doctors say that one should pay extremely close attention to dreams. And that is a reasonable supposition even for those who are not practitioners, but inquire into this question to a certain extent out of theoretical interest.²¹

Most doctors in antiquity regarded dreams as a medium through which one can learn about the patient's condition and about the requisite therapy. With the invocation of "distinguished doctors," however, this passage is sometimes interpreted with reference to the Hippocratic treatise *De diaeta* (*De victu, Regimen*), the fourth book of which is devoted entirely to dreams. The view there, to put it in a nutshell, is that dreams that repeat one's waking actions and thoughts are taken to be signs of health, whereas dreams of conflicts and confusions are signs of illness.

While a reference to *De diaeta* is not unlikely, it has been noted that the explanation of dreams in that treatise is very different from Aristotle's.²² Most

20 This passage has attracted much attention in the medieval Latin tradition; see section 3.5 below and Filip Radovic, "The Case of Red-Stained Mirrors: Perception, Strange Phenomena, and the Role of Exemplification in Aristotle," in *Philosophical Problems in Sense Perception: Testing the Limits of Aristotelianism*, ed. D. Bennett and J. Toivanen (Cham: Springer, 2020), 77–89; Christina Thomsen Thörnqvist, "A Stain on the Bronze: Some Medieval Latin Commentators on *De insomniis* 2.459b23–460a23," in *The Embodied Soul: Aristotelian Psychology and Physiology in Medieval Europe between 1200 and 1420*, ed. M. Gensler, M. Mansfeld, and M. Michałowska (Cham: Springer (in press)).

21 Aristotle, *Div.Somn. 1, 463a4–7*; *On Sleep and Dreams*, trans. D. Gallop, modified by Pavel Gregoric.

22 Philip J. van der Eijk, "Aristotle on 'Distinguished Physicians' and on the Medical Significance of Dreams," in *Ancient Medicine in Its Socio-Cultural Context*, ed. P. J. van der Eijk, M. H. F. J. Horstmanshoff, and P. H. Schrijvers (Leiden: Brill, 1995), 2:447–59.

notably, the Hippocratic author believes that one's soul is liberated from the body in sleep, so that it can perceive all sorts of things more clearly.²³ Dreams, then, are the results of such perceptions by the soul operating on its own, independently of the body. Although the Hippocratic doctors operated with a conception of the soul and dreams that is obviously incompatible with Aristotle's, he is not prepared to dismiss their practice of considering the patient's dreams as a means of diagnosis and prognosis. On the contrary, he seems to acknowledge that these doctors were onto something. Indeed, not only is their insistence on the medical utility of dreams cited as a piece of evidence in support of Aristotle's own theory and typology of dreams, but his theory of sleep and dreams seems to offer a sound theoretical grounding for their practice. This is interesting as an indication of Aristotle's general approach to expertise in various fields of science. Very briefly, he has great respect for experts, he is keen to use their findings to support his own theories, and he takes his theories to supply the correct explanations of these findings.

Moreover, this passage is important for any attempt to ascertain Aristotle's knowledge of the Hippocratic corpus, and more generally for any investigation of Aristotle's relation to medicine.²⁴ After all, Aristotle himself came from a family of distinguished doctors, and we know that he planned to write systematically on health and illness, most probably as common attributes of living beings that require investigation along with sleep and dreams and the other topics discussed in the *Parva naturalia*.²⁵ Finally, this passage reminds us of the fact that the supposition of medical utility of dreams is characteristic of all ancient Greek medicine, from Hippocrates to Galen and beyond.²⁶ This supposition persists also in the Arabic medical tradition, for instance, in Avicenna's *Canon of Medicine (al-Qanūn)*, where dreams are treated as diagnostic tools indicating particular humoral mixtures.

23 Hippocrates, *De diaeta* 86, ed. R. Joly and S. Byl (Berlin: Akademie-Verlag, 1984), 218.

24 See Carolin M. Oser-Grote, *Aristoteles und das Corpus Hippocraticum: Die Anatomie und Physiologie des Menschen* (Stuttgart: Steiner, 2004).

25 See *Sens.* 1, 436a13–b1; *Resp.* 21, 480b22–31; cf. *PA* 1.1, 639a15–22.

26 See, e.g., Rufus of Ephesus, *Quaestiones medicinales*, ed. H. Gärtner (Leipzig: Teubner, 1970), 5; Galen, *De dignotione ex insomniis*, in *Claudii Galeni Opera Omnia*, ed. K. G. Kühn (Leipzig: C. Knoblochii, 1821), 6:832–35; Nemesius of Emesa, *De natura hominis*, ed. M. Morani (Berlin: De Gruyter, 1987), 68.9–12, 71.9–13, and 122.18–22. References to other ancient medical authors, together with an integral translation of Galen's text, can be found in Steven M. Oberhelman, "Galen, *On Diagnosis from Dreams*," *Journal of the History of Medicine and Allied Sciences* 38 (1983): 36–47. See also Kessels, "Ancient Systems," 414–24.

3.4 *Aristotle's Treatises on Sleep and Dreams in the Arabic Tradition*

The three treatises on sleep and dreams underwent a substantial transformation in their Arabic reception. The work purporting to be the translation of the *Parva naturalia* as a whole, *Kitāb al-Ḥiss wa-l-maḥsūs* ("On sensation and the objects of sensation," named after the first treatise of the *Parva naturalia*) presented a very different account of dreams than is to be found in Aristotle's text: taking the existence of veridical dreams for granted, the adaptor strives to explain them as revelations that the "universal intellect" sends to the imaginative faculties of the sleeper. Only one chapter of one "part" of the Arabic *Kitāb al-Ḥiss* corresponds to the topics in the three sleep and dream treatises (in Arabic, it is called *Bāb al-Nawm wa-l-yaqāza*, "Chapter on sleep and waking"), but it is by far the largest section of the (extant) text, and it includes much material on dreams that has no parallel in Aristotle's treatises.

Rotraud Hansberger has demonstrated that the adaptation originated in the "circle of al-Kindī" in the middle of the ninth century;²⁷ this attribution is supported by considering the text alongside al-Kindī's own book on dreams, the *Treatise on the Quiddity of Sleep and Dreams* (*Risāla fī māhiyyat al-nawm wa-l-ru'yā*).²⁸ In this work, al-Kindī claims that the imagination obtains forms more clearly once they are abstracted from sensation, which is confounded by their material natures: perception obtained through the peripheral sense-organs (sensation) is weaker than perception obtained *without* them.²⁹

This re-interpretation of Aristotle had a profound impact in the Arabic tradition, notably in Averroes' *Explanatory Paraphrase* of the *Parva naturalia* (*Talkhīṣ Kitāb al-Ḥiss wa-l-maḥsūs*), according to which veridical dreams are caused by the active intellect.³⁰ After being translated into Latin twice in the course of the thirteenth century, Averroes' *Explanatory Paraphrase* influenced the medieval Latin tradition.

27 Rotraud Hansberger, "Kitāb al-Ḥiss wa-l-maḥsūs: Aristotle's *Parva naturalia* in Arabic guise," in *Les Parva naturalia d'Aristote: Fortune antique et médiévale*, ed. C. Grellard and P.-M. Morel (Paris: Sorbonne, 2010), 150. The only extant Arabic manuscript of the text was discovered in 1985; until then, scholars had been suspicious about the source of Arabic citations of the *Parva naturalia* in Averroes' *Explanatory Paraphrase* because they seemed so alien to the Aristotelian tradition.

28 Al-Kindī, *Rasā'il al-Kindī al-falsafīyya*, ed. Rīda (Cairo: Dār al-fikr al-'arabī, 1950–1953), 1:293–311; trans. Peter Adamson and Peter Pormann in *The Philosophical Works of al-Kindī* (Oxford: Clarendon Press, 2012), 124–33.

29 Al-Kindī, *Risāla fī Māhiyya*, 298; *The Philosophical Works of al-Kindī*, trans. P. Adamson and P. Pormann, 126.

30 See Hansberger, "Kitāb al-Ḥiss wa-l-maḥsūs," 143–62, and ead., "How Aristotle came to believe in God-given dreams," in *Dreaming Across Boundaries*, ed. L. Marlow (Boston: Ilex, 2008), 67–68.

At first glance, one might suppose that the Arabic interventions were motivated by religious concerns (prophecy and veridical dreams in the Qur'ān, not to mention the extensive Arabic popular literature on dream interpretation), but the Platonising element in the relevant philosophical texts suggests that its theoretical foundations were more complex.

3.5 *Questions That Occupied Medieval Latin Philosophers*

Aristotle's *Parva naturalia* was translated into Latin in the early thirteenth century (*translatio vetus*) and again between 1260 and 1270 by William of Moerbeke (*translatio nova*). From the middle of the thirteenth century onwards, these translations were studied at universities as part of the curriculum. For instance, the curriculum of the Faculty of Arts in Paris, adopted in March 1255, reserved five weeks for the study of Aristotle's treatises on sleep and dreams.³¹ The surviving question commentaries on these treatises, all written by university masters, suggest that the study centred around a series of questions that became standardised over time. There were definitional questions (For instance, what is prior, sleep or waking? Is sleep the privation of waking? Is sleep an affection of the common sense?), extensional questions (For instance, do all animals sleep? Do plants sleep?³²), and physiological questions (For instance, are there causes of sleep other than those stated by Aristotle, as for example exhaustion or deep speculation, as suggested by Averroes?). Also, there were questions concerning the heart as the place of the common sense, in Aristotle's theory, which had to be squared with the apparently better evidenced encephalocentric theory espoused by Avicenna, among others, and prevalent in medical circles.³³

31 See Pieter De Leemans, "Parva naturalia, Commentaries on Aristotle's," in *Encyclopedia of Medieval Philosophy: Philosophy Between 500 and 1500*, ed. H. Lagerlund (Dordrecht: Springer, 2011), 919.

32 Aristotle's answer to this particular question is negative (see *Somn. Vig.* 1, 454b27–455a3). Since plants have only the nutritive soul and not the sensitive, they are unable to sleep (and wake). However, Aristotle's answer seems to open new questions. For instance, it seems to entail the assumption that the nutritive soul, unlike the sensitive, can operate continuously without rest. For the medieval discussion of this and other related problems, see Thomsen Thörnqvist's chapter, "Affected by the Matter," in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Leiden: Brill, 2022), 183–212.

33 A catalogue of the question commentaries written roughly between 1260 and 1320, with an exhaustive list of *quaestiones* related to sleep and dreams discussed in each commentary, can be found in Sten Ebbesen, Christina Thomsen Thörnqvist, and Véronique Decaix, "Questions on *De sensu et sensato*, *De memoria* and *De somno et vigilia*: A Catalogue," *Bulletin de Philosophie Médiévale* 57 (2015): 96–115.

There were specific problems that occupied the medieval Latin philosophers, such as sleepwalking. The problem was that the senses are supposed to be shut down in sleep, on Aristotle's theory, and yet sleepwalkers seem to make some use of their senses.³⁴ Another problem was whether menstruating women can indeed affect mirrors, as Aristotle claims in the difficult passage of *De insomniis* in which he seems to contradict some of his central views concerning perception (see section 3.2 above). Yet another problem was whether and how divination in sleep is possible, given Aristotle's explicit rejection of the possibility of god-sent dreams, but also his apparent acceptance of the possibility of veridical dreams concerning events remote in space and time, where Aristotle proposes to replace Democritus' theory of effluences with a theory of propagation of motion by chain-reaction. As several contributions to this volume show, the last problem was of special interest to medieval philosophers.

4 Contributions to This Volume

One of the most impressive and philosophically interesting features of dreams is that they feel perfectly real to the person who experiences them. In chapter one, PAVEL GREGORIC explores Aristotle's explanation of that feature. There are two main parts to his explanation. First, the common sense is shut down, which means that (1) all the peripheral sense organs are shut down, so no perception takes place in sleep; (2) there is no monitoring of the special senses, so there is no awareness of the fact that no perception takes place in sleep; (3) there is no integration of sense modalities and hence no possibility of associating, dissociating, and comparing appearances (in the waking state, by contrast, cross-modal association, dissociation, and comparison are important grounds for distrusting the senses); (4) all the other cognitive capacities tend to be shut down in sleep too, which eliminates all the other grounds for distrusting one's experience. Second, *phantasia* may remain operative in sleep, which means that the sleeper may have appearances. These appearances, unless they are disturbed by physiological processes, are phenomenologically similar to sense-perceptions that caused them in the waking state. Now, these appearances are not merely entertained; rather, they are passively accepted, because in sleep the common sense, memory, and the higher cognitive powers are all shut down, so there is nothing to contradict them. What renders dreams so

34 This question is discussed in detail by Christina Thomsen Thörnqvist, "Sleepwalking Through the Thirteenth Century: Some Medieval Latin Commentaries on Aristotle's *De somno et vigilia* 2.456a24–27," *Vivarium* 54 (2016): 286–310.

realistic, then, is this passive acceptance in the absence of input from all other cognitive capacities.

Aristotle's account, as Gregoric reconstructs it through a careful analysis of the argument of *De insomniis*, is then compared to the account we find in the only extant Greek commentary on that treatise, written by the Byzantine scholar Michael of Ephesus (1050–1129). On Michael's account, what is crucial is the absence of input from reason only. When reason is disengaged, as it usually is, the sleeper takes his dreams to be real; but if reason kicks in, as Aristotle says that it occasionally does, the sleeper is aware that what he is experiencing is only a dream. The way Michael reads and updates Aristotle's text, Gregoric suggests, can serve as an example of the plasticity of the Aristotelian tradition.

Although Aristotle recognises the possibility that dreams can be signs of a limited number of future states and events, FILIP RADOVIC points out in chapter two that Aristotle does not actually provide a clear example of such a dream. His example of faint bodily processes of which we can become aware only in sleep, when commotions in and around the body subside, does not qualify as a dream, according to Aristotle's own definition in *De insomniis*. Radovic argues that this is because the scope of the treatise *De divinatione per somnum*, as the title indicates, is "prophecy in *sleep*" which includes, but is not limited to, "prophecy through dreams."

Radovic analyses Aristotle's conception of a sign and suggests that Aristotle's discussion was influenced by the medical tradition which distinguished between two types of dreams that have medical significance: those that are sent by gods and those that occur naturally. Both types of dreams were traditionally thought to be wrapped in symbolism and abstract forms of similarity that required skilled interpretation. Aristotle agrees only partially, Radovic argues, namely insofar as he admits that dreams may involve plain similarity with objects and processes in the real world, and that dream-interpretation consists in spotting these similarities. However, Aristotle does not restrict that to the class of dreams as signs but extends it to the class of dreams as causes and coincidences, having previously discarded the possibility that dreams could be sent by gods.

Aristotle's eminently naturalist take on veridical dreams posed a major challenge to Aristotle's medieval interpreters. In the Arabic and Latin philosophical tradition alike, few people had any qualms about accepting godsent veridical dreams. Instead of viewing them with suspicion, they considered them endowed with a higher authority. Chapters three and four trace the attempts among Arabic philosophers to develop theories of dreaming that account for veridical dreams and at the same time cohere with Aristotelian psychology. In chapter three, DAVID BENNETT analyses the content and context of

Avicenna's (980–1037) discussions of dreaming. Reviewing the antecedents and early reception of these discussions in the Arabic tradition, he shows how veridical dreams are naturally accommodated by Avicenna's psychology and epistemology.

According to Avicenna, there is an intelligible realm of unlimited knowledge and human beings have unrestricted access to that knowledge insofar as they possess sound internal faculties. The state of sleep is particularly conducive for gaining this access, because the subject becomes undistracted by the sensory stimuli, which puts the faculty of imagination in the right state: just dormant enough that the soul can glimpse the intelligible world without distraction, yet precise enough to inscribe them on the common sense. In principle, this is something that can happen to anyone, which explains why prophetic dreams can occur to common folk. With training, according to Avicenna, some individuals can bring themselves to the requisite state even when awake, which accounts for prophets' accomplishments. None of this, Bennett insists, involves any mysticism or esoterism on Avicenna's part.

Much like Avicenna before him, Averroes' (1126–1198) account of divinatory dreams is based on the ninth-century adaptation of the *Parva naturalia* (*Kitāb al-Ḥiss wa-l-maḥsūs*) which distorted Aristotle's text and mixed it with Neoplatonic and Galenic lore. In chapter four, ROTRAUD HANSBERGER reconstructs Averroes' account against the one found in *Kitāb al-Ḥiss* and shows his commitment to Aristotelianism in the way he interprets and transforms certain un-Aristotelian elements of the doctrine of divinatory dreaming found in that work. One such element is the association of the state of sleep and veridical dreams with "potential sense perception," to which Averroes responds by emphasising a more Aristotelian understanding of the relation between sleep and waking as well as between potentiality and actuality. Another distinctly un-Aristotelian element is the idea that forms and intentions (*ma'ānī*) somehow flow from the universal Agent Intellect to both sleepers and dream-interpreters. Averroes, by contrast, places veridical dreams in the context of the normal process of knowledge-acquisition.

Here Averroes has to face two challenges: (1) How is the Agent Intellect supposed to convey *particular* forms and intentions to sleepers and dream interpreters? (2) Why do divinatory dreams occur only to people who are immediately concerned with their subject matter, rather than to any random sleeper? Averroes meets the first challenge, Hansberger shows, by arguing that the Agent Intellect actually conveys *universal* forms that account for the causation of the events that fulfil divinatory dreams, and it is only the sleeper's imaginative faculty that receives such forms as particulars, the modality suited to the nature of the imaginative faculty with its closer ties to the body and

sense-objects. This enables Averroes to hold on to the thesis that divinatory dreams reveal knowledge of particulars, without having to ascribe knowledge of particulars to the Agent Intellect. Averroes meets the second challenge by introducing the notion of prior or “preparatory” knowledge, which puts an individual in a position to experience a divinatory dream. This explains why a divinatory dream can occur only to the individual concerned. As with knowledge acquisition in general, then, divinatory dreams are thus a combined result of the activity of the Agent Intellect and of the sleeper’s individual particular circumstances, preparedness, and aptitude. In both of Averroes’ manoeuvres Hansberger detects a naturalistic and genuinely Aristotelian instinct.

Averroes’ interpretation of divinatory dreams was one major influence on the Latin commentators from the thirteenth and early fourteenth centuries, and we have seen that it was based on a loose adaptation of *Parva naturalia*. The other major influence was Albert the Great (c.1200–1280), who used an early Latin translation of the *Parva naturalia* from Greek. Albert was thus aware of Aristotle’s naturalism and minimalism as regards the possibility of prognostication through dreams and he gives Aristotle a fair treatment in his own treatise *De somno et vigilia*. However, Albert develops a theory of celestial influence on our faculties, not unlike Averroes’, which makes divinatory dreams possible; he subsequently foists his theory on the problematic passage from *De insomniis* in which Aristotle suggests how information concerning events that are remote in space and time might be propagated (see pp. 12–13 above). As STEN EBBESEN shows in chapter five, the next couple of generations of scholastics mined Albert’s treatise for suggestions on how to circumvent Aristotle’s disbelief in divinatory dreams.

In the central part of his chapter, Ebbesen exemplifies no less than seven different strategies for getting round the problem, from making Aristotle an ordinary believer in divination (Simon of Faversham, 1260–1306) to modifying Aristotle’s typology of dreams (Anonymus Angelicanus I = Siger of Brabant?) or reading Albert’s theory into Aristotle (James of Douai, late thirteenth century). An interesting exception is Boethius of Dacia (fl. c.1270), who was unwilling to downplay Aristotle’s disbelief in divinatory dreams. In the fourteenth century the influence of Averroes and Albert started to wane, as Ebbesen shows with the example of John Buridan (c.1301–c.1362). There are at least two versions of Buridan’s *quaestio* regarding the possibility of divination, one in which he is almost as sceptical as Boethius, and the other in which he is more accommodating. Both versions, however, manifest Buridan’s independence from Averroes and Albert.

In chapter six, CHRISTINA THOMSEN THÖRNQVIST discusses a selection of question commentaries on *De insomniis* from Albert the Great to John Buridan, demonstrating that questions about the mechanisms of dream

formation dominated the Latin reception of *De insomniis*. Aristotle's description of the process from external sense impressions received in waking state to the sleeper's perception of the dream phantasm is obviously lacunose – several steps of the process are either unclear or not accounted for at all – and the Latin commentators were determined to fill in the blanks. The process as described by Aristotle seems to require that the sense organs are capable of storing the sense-impressions to some extent. But how is this possible? And how can we perceive our dreams in sleep when Aristotle's definition of sleep is that the whole sensory apparatus, from the common sense to the particular senses, is deactivated? Still, not only *phantasia* but also the common sense have key roles in the process as described by Aristotle; which, then, are the precise functions of these faculties in this particular context?

From Albert the Great onwards, the Latin commentators rely on the Arabic theories on the interior senses to develop from Aristotle's brief account of dream formation in *De insomniis* a much more complete explanation. What they end up with is a substantial development of Aristotle's account, a full cycle that starts and ends with perception and where the different stages have a specific anatomical location in the human body.

The volume closes with chapter seven, in which FILIP RADOVIC revisits Aristotle's explanation of why sleepers mistake their dreams for real events, what is nowadays known as “delusional dreaming.” Gregoric has argued in chapter one that the core of Aristotle's explanation is the notion of passive or unreflective acceptance in the absence of input from other cognitive capacities. In the first part of his chapter, Radovic traces this notion from the ancient sceptics and Radulphus Brito (c.1270–1320) to Spinoza, William James, Bertrand Russell, and the contemporary critics of this notion, such as Jennifer Windt.

In the second part of the paper, Radovic explores several contemporary explanations of delusional dreaming and shows that the prominent themes of imagination and belief in dreams reflect key Aristotelian doctrines, and, importantly, he defends the Aristotelian explanation in terms of passive acceptance against the alternative views proposed by Jean-Paul Sartre, Colin McGinn, Owen Flanagan, and Jennifer Windt. Following Aristotle's lead, at least as Gregoric interprets him in chapter one, Radovic argues that the lack of awareness that one is asleep is sufficient for dreams to appear real to the sleeper. However, unlike Aristotle, Radovic calls for a wider conception of “appearing real” that does not necessarily include a faithful replication of ordinary perceptual states in waking.

The full circle this volume makes from chapter one to chapter seven is a testimony to the fecundity and relevance of Aristotle's thoughts on the subject of sleep and dreams. We hope that the following pages will spark further interest in the contributions that the Philosopher and his followers in the Greek,

Arabic, and Latin traditions made to our understanding of the “wide realm of wild reality” of dreams.

5 The Resources

Several editions of *De somno et vigilia*, *De insomniis*, and *De divinatione per somnum* have appeared within the last seventy years or so, most of them as part of editions of the *Parva naturalia*.³⁵ The edition by William D. Ross is the most widely used today. Paweł Siwek's edition is generally considered to be better than Ross', but it is rather inaccessible nowadays. However, neither Ross nor Siwek produce a stemma and their readings do not always follow a firm principle concerning the authority of the manuscripts.³⁶ The situation has been partly remedied by David Bloch's research into the textual tradition of *De memoria* and *De sensu*.³⁷ The stemma produced by Bloch for *De memoria* should be valid for the *De somno et vigilia*, *De insomniis*, and the *De divinatione per somnum* also, given that they are transmitted, in most cases, by the same manuscripts. However, we are still awaiting a critical edition that will take these results into account.

Most editions of the *Parva naturalia* come with a facing translation, but the most widely used translations into modern languages are parts of volumes that contain translations of Aristotle's works. The most commonly used English translation is John I. Beare's in the Oxford translation under the editorship of William D. Ross, significantly updated and improved by Jonathan Barnes in 1984.³⁸ There is an excellent new English translation by

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- 35 In chronological order: *Aristotelis De somno et vigilia liber adiectis veteribus translationibus et Theodori Metochitae commentario*, ed. H. J. Drossaart Lulofs (Leiden: Burgersdijk and Niermans, 1943); *Aristotelis De insomniis et De divinatione per somnum*, ed. H. J. Drossaart Lulofs; *Aristote: Petits traités d'histoire naturelle*, ed. R. Mugnier (Paris: Les Belles Lettres, 1953); *Aristotle: Parva Naturalia*, ed. W. D. Ross; *Aristotelis Parva Naturalia*, ed. P. Siwek (Rome: Desclée, 1963); Aristotle, *On Sleep and Dreams*, ed. D. Gallop; *Aristotele: Il sonno e i sogni*, ed. L. Repici (Venezia: Marsilio, 2003).
- 36 This is most conspicuously the case for Siwek's edition. Without saying so expressly in his review, Drossaart Lulofs comes very close to charging Siwek with eclecticism, see Hendrik J. Drossaart Lulofs, “Review of Siwek, *Aristotelis Parva Natualia*,” *Mnemosyne* 18 (1965): 425–27.
- 37 David Bloch, *Aristotle on Memory and Recollection: Text, Translation, Interpretation, and Reception in Western Scholasticism* (Leiden: Brill, 2006); id., “The Text of Aristotle's *De Sensu* and *De Memoria*,” *Revue d'Histoire des Textes*, n.s. 3 (2008): 1–58.
- 38 Aristotle, *Parva Naturalia*, ed. J. I. Beare and G. R. T. Ross (Oxford: Clarendon Press, 1908); repr. in *The Works of Aristotle Translated into English*, vol. 3, ed. W. D. Ross (Oxford: Clarendon Press, 1931); *The Complete Works of Aristotle: The Revised Oxford Translation*, ed. J. Barnes, 2 vols. (Princeton: Princeton University Press, 1984).

Fred D. Miller, Jr.³⁹ and a forthcoming translation from Hackett Publishing Company, under the editorship of David Reeve. The best German translation of *De insomniis* and *De divinatione per somnum* is by Philip J. van der Eijk, based on Siwek's edition, whereas the most reliable German translation of *De somno et vigilia* is Eugen Dönt's, which forms part of a translation of the whole of the *Parva naturalia*.⁴⁰ By now the standard French translation of the whole *Parva naturalia* is that of Pierre-Marie Morel, which was recently incorporated into the complete works of Aristotle in French translation under the editorship of Pierre Pellegrin.⁴¹ As for the Latin translations used in the middle ages, there are preliminary editions by Drossaart Lulofs appended to his editions of the Greek text of Aristotle's three treatises,⁴² whereas definitive critical editions are planned to appear in the *Aristoteles Latinus* series.

Curiously, our three treatises do not seem to have been widely read or to have attracted much scholarly attention in antiquity. The first Greek commentary on our treatises, along with all but one treatise from the *Parva naturalia*, was written by the Byzantine scholar Michael of Ephesus, active in the first half of the twelfth century.⁴³ Michael's commentary, aiming mostly to elucidate Aristotle's words and arguments, was much used for the four Greek paraphrases of *Parva naturalia* produced by Byzantine scholars between the very late thirteenth to the mid-fifteenth century, namely Sophonias (fl. c.1296), George Pachymeres (1242–c.1310), Theodore Metochites (1270–1332), and George Scholarios (1400–c.1473).⁴⁴

The key texts for the Arabic reception of Aristotle's treatises on sleep and dreams are the relevant parts of the ninth-century adaptation of the *Parva naturalia* (*Kitāb al-Ḥiss wa-l-maḥsūs*) and of the *Explanatory Paraphrase* of

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- 39 Aristotle, *On the Soul and Other Psychological Works*, ed. F. D. Miller, Jr. (Oxford: Clarendon Press, 2018).
- 40 Aristotle, *Kleine naturwissenschaftliche Abhandlungen*, ed. E. Dönt (Stuttgart: Reclam, 1997).
- 41 Aristotle, *Petits traités d'histoire naturelle*, ed. P.-M. Morel (Paris: Flammarion, 2000); *Aristote: Oeuvres complètes*, ed. P. Pellegrin (Paris: Flammarion, 2014).
- 42 See 24n35 above. Drossaart Lulof's editions of Latin translations are available in the *Aristoteles Latinus Database* by Brepols Publishers.
- 43 Michael did not write a commentary on the first treatise from the *Parva naturalia* (*De sensu et sensibilibus*), presumably because Alexander of Aphrodisias had written one which was authoritative and available. An assessment of Michael's commentary on Aristotle's treatises on sleep and dreams can be found in Thomas Ricklin, *Der Traum der Philosophie im 12. Jahrhundert: Traumtheorien zwischen Constantinus Africanus und Aristoteles* (Leiden: Brill, 1998), 284–307.
- 44 Sophonias' paraphrase was published under Themistius' name in the *Commentaria in Aristotelem Graeca* series, as *Themistii (Sophoniae) in Parva naturalia commentarium*, ed. P. Wendland (Berlin: Reimer, 1903). For the other three paraphrases, see Bydén, "Introduction," 16n51–53.

Averroes.⁴⁵ The most ambitious medieval interpretation of the *Parva naturalia*, influenced by Averroes, is the paraphrase of Albert the Great (c.1193–1280).⁴⁶ Unlike Thomas Aquinas, who wrote commentaries only on the first two treatises from the *Parva naturalia* (*De sensu et sensibilibus* and *De memoria et reminiscencia*), several masters of arts such as Radulphus Brito (c.1270–1320), John of Jandun (c.1285–1328), and John Buridan (c.1300–c.1358) wrote commentaries on most of the *Parva naturalia*, including what we know as the three treatises on sleep and dreams.⁴⁷ While much of the medieval Latin material remains unpublished or buried in old uncritical editions, the situation began to change recently with new editions of the question commentaries by Simon of Faversham (c.1260–1306), Geoffrey of Aspill (d. 1287), Radulphus Brito (c.1270–1320), Walter Burley (c.1275–1345), and others – all edited by the members of the *Representation and Reality* group.⁴⁸ Of course, the fact that some notable medieval philosophers did not write commentaries on Aristotle's *De somno et vigilia*, *De insomniis*, and *De divinatione per somnum* does not mean that these treatises were unfamiliar to them or that they did not engage with particular topics discussed in these treatises.⁴⁹ In fact, these Aristotelian

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- 45 The very first (draft) edition of *Kitāb al-Ḥiss wa-l-maḥsūs* can be found in Rotraud Hansberger's doctoral dissertation from 2007, which will be published in modified form in the *Aristoteles Semitico-Latinus* series by Brill. There is an English translation of Averroes' *Explanatory Paraphrase* by H. Blumberg in Averroes, *Epitome of Parva Naturalia* (Cambridge, MA: The Medieval Academy of America, 1961), following the edition of the Latin translation in the same series (1949) and preceding the edition of the Arabic text (1972). The Arabic text has also been edited by H. Gätje in Averroes, *Talkhīṣ kitāb al-ḥiss wa-l-maḥsūs* (Wiesbaden: Otto Harrassowitz, 1961).
- 46 Albertus Magnus, *De somno et vigilia*, ed. A. Borgnet (Paris: Vivès, 1890). A new edition of Albert's *Parva naturalia* is being prepared by Silvia Donati for the *Editio Coloniensis* of Albert's *Opera omnia*.
- 47 For these little-known commentaries, see Bydén, "Introduction," 22.
- 48 Simon of Faversham, "*Quaestiones super librum De somno et vigilia*: An Edition," ed. S. Ebbesen, *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 82 (2013): 90–145; Geoffrey of Aspill, "*Quaestiones super librum De somno et vigilia*: An Edition," ed. S. Ebbesen, *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 83 (2014): 257–341; Walter Burley, "*Expositio on Aristotle's Treatises on Sleep and Dreaming*: An Edition," ed. C. Thomsen Thörnqvist, *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 83 (2014): 379–515; James of Douai, "On Dreams," ed. S. Ebbesen, *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 84 (2015): 22–92; Radulphus Brito, "On Memory and Dreams: An edition," ed. S. Ebbesen, *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 85 (2016): 11–86; Anonymus Vaticani 3061 and Anonymus Vaticani 2170, "On Aristotle's *Parva Naturalia*: An Edition of Selected Questions," ed. S. Ebbesen, *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 86 (2017): 216–312. Critical editions of the question commentaries by Siger of Brabant(?) and Anonymus Angelicani (MS Rome, Bibl. Angelica, 549) by Thomsen Thörnqvist are in progress.
- 49 See, for instance, Martin Pickavé, "Good Night and Good Luck: Some Late Thirteenth-Century Philosophers on Activities in and through Dreams," in *The Parva naturalia*, ed. B. Bydén and F. Radovic (Cham: Springer, 2018), 211–31.

treatises retained their status as standard texts to be lectured on in the arts faculties of European universities until at least the end of the fifteenth century, so it was hard for a philosopher not to have some acquaintance with them.

Of the modern commentaries, many are found accompanying the editions and translations of the treatises.⁵⁰ Here we should mention especially Philip J. van der Eijk's extensive German commentary on *De insomniis* and *De divinatione per somnum*, which pays great attention to philological and philosophical detail, David Gallop's English commentary on all three treatises, prefaced by a readable wide-ranging introduction, and Luciana Repici's Italian commentary with a seventy-page introductory study.⁵¹ Whereas the number of contemporary commentaries is still modest in comparison with those on *De anima*, there is an extensive amount of research on various topics covered in the three treatises on sleep and dreams specifically, and on *Parva naturalia* more generally.⁵²

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- 50 An exception is a doctoral thesis turned into a monograph: *Aristotle's Concept of Soul, Sleep and Dreams* by Henriette Wijsenbeek-Wijler (Amsterdam: Hakkert, 1978), in which only the last two chapters (pp. 170–248) are relevant for the topic of sleep and dreams, since the book is mostly a general and largely obsolete propaedeutic to Aristotle's psychology.
- 51 Van der Eijk, *Aristoteles: De insomniis*; Gallop, *On Sleep and Dreams*; Repici, *Aristotele: Il sonno e i sogni*. The reader might also consult Jackie Pigeaud's introduction to his annotated translation of Aristotle's *De divinatione per somnum*, discussing a broad range of topics related to dreaming in antiquity, in Aristotle, *La vérité des songes* (Paris: Rivages, 1995), 9–101.
- 52 The following volumes offer a first-time visitor's guide to the more recent scholarly literature: *Aristotle on the Mind and the Senses*, ed. G. E. R. Lloyd and G. E. L. Owen (Cambridge: Cambridge University Press, 1978, repr. 2007); *Les Parva Naturalia*, ed. C. Grellard and P.-M. Morel (Paris: Sorbonne, 2010); *The Parva naturalia*, ed. B. Bydén and F. Radovic (Cham: Springer, 2018).